

# Energy Resources Conservation And Development Commission

In the Matter of: )  
 )  
Application for Certification )  
of Los Esteros Critical Energy )  
Facility II, Phase 2 )  
 )

Docket No. 03-AFC-2

## Staff's Reply Brief on the Evidentiary Hearings

August 22, 2005

## INTRODUCTION

On June 30, 2005, the Committee assigned to review Los Esteros Critical Energy Facility II (LECEF II), Phase 2 Application for Certification (AFC) held an evidentiary hearing to establish the factual record necessary to reach a decision in the case. The Committee took written and oral testimony as well as exhibits from the parties. Declarations and affidavits were accepted as evidence for those topic areas that were undisputed and for which the Committee found the information adequate. The Committee directed the parties to submit Briefs by July 29, 2005.

On August 5, 2005 the parties were granted leave, though not required, to file reply briefs until noon on Monday, August 22, 2005. This is staff's Reply Brief.

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## ARGUMENT

**THE COMMISSION, AS LEAD AGENCY FOR LECEF II, HAS THE LEGAL AUTHORITY UNDER CEQA TO DETERMINE IF THERE WILL BE A SIGNIFICANT CUMULATIVE IMPACT ON THE ENVIRONMENT DUE TO SECONDARY PARTICULATE MATTER (PM) EMISSIONS FORMED BY THE AMMONIA SLIP: AS SUCH, IT HAS THE AUTHORITY TO REQUIRE FEASIBLE MEASURES TO AVOID OR SUBSTANTIALLY LESSEN THOSE IMPACTS.**

**A. Calpine Incorrectly Argues that the Commission, as Lead Agency, Does not have Primary Responsibility under CEQA Regarding the Environmental Impacts from LECEF II.**

Calpine wrongly implies that the Bay Area Air Quality Management District (BAAQMD), not the Commission, has the primary responsibility for performing the environmental assessments of the air quality impacts for LECEF II.

*(Applicants Opening Brief, July 29, 2005, p.20)* This suggestion clearly conflicts with applicable law.

The Commission, as lead agency for LECEF II, has the primary legal responsibility under CEQA to make an adequate and objective determination concerning potential significant impacts.<sup>1</sup> *(CEQA Guidelines, Cal. Code Regs., tit. 14, § 15084(e) and Pub. Res. Code § 21080)* This legal responsibility was emphasized by the court in Sundstrom v. Mendocino (1988) 202 Cal. App. 3d 296, 307, which stated that the environmental study “*must show the lead agency’s independent judgment*” in regard to the environmental impacts of the project. Furthermore, California Code of Regulations, title 20 section 1742(c)

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<sup>1</sup> Calpine erroneously characterizes the Air District as a “responsible agency” which can make evaluations of the significance of air impacts that are binding on the Energy Commission, citing the CEQA Guidelines. (Calpine’s Opening Brief, p.20.) However, the Air District cannot be a CEQA “responsible agency” because, pursuant to the Warren-Alquist Act, the Energy Commission is the only permitting agency. The

provides express direction concerning the Commissions responsibility, as lead agency, by stating that the staff's environmental assessment "*shall focus on those environmental matters not expected to be considered by other agencies, in order to ensure a complete assessment of significant environmental issues in the proceedings.*" (Emphasis added)

Consistent with state law, staff's environmental assessment specifically focused on secondary PM formation from precursor ammonia slip emissions because BAAQMD acknowledged that it did not have regulatory authority over it. The District's Final Determination of Compliance (FDOC) only addressed ammonia emissions as "*direct impacts on health risks and from odors*" – it did not perform any formal scientific analysis of secondary PM formation from ammonia slip.

(6/30/05 Record Transcript (RT), p.83:11-15 Cal. Code Regs., tit. 20, §1755(c); CEQA Guidelines, Cal. Code Regs., tit 14, §§ 15091 and 15092)

It is important to note that BAAQMD stated it was neutral on this issue and did not oppose staff's proposed **AQ-SC11**. (6/30/05RT, p. 116:8-9, p. 117:23-25 and p. 118:1)

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Air District issues no separate discretionary permit which would provide it with the discretion to reject the project, which is the definition of a CEQA "responsible agency." (CEQA Guidelines, § 15381.)

**B. The Commission, as Lead Agency, is Required to Avoid or Substantially Lessen any Significant Adverse Cumulative Impacts to the Non-attainment Air Basin Due to Secondary PM Emissions through Feasible Mitigation Measures.**

**1. Projected Ammonia Contribution to Existing Violations of the State's PM10 and PM2.5 Air Quality Standards are a Significant Cumulative Impact.**

- (a) Under State Law, the Existing Violations of the PM10 and PM2.5 Standards Must Be Considered as an Important Factor when Assessing the Environmental Impacts Due to the Addition of Secondary PM Formed by the Ammonia Slip.

The non-attainment status of the District for PM10 and PM2.5 standards is an important factor to consider in light of the serious respiratory health issues associated with the smaller particulates. (6/30/05 RT p. 86:8-11,25 and 87:1-2, *CEQA Guidelines, Cal. Code Regs., tit. 14, § 15064; Kings County Farm Bureau v. City of Handford (1990), 221 Cal.App.3d 687, 718*) In assessing the significance of the project's potential to add 118.7 tons per year of PM precursor ammonia to the air basin, the Commission must consider existing conditions and the fact that the air basin is currently non-attainment for PM. (*Kings County Farm Bureau v City of Hanford, supra, 221 Cal.App.3d 687, 718; CEQA Guidelines, Cal. Code Regs., tit. 14, § 15384*) The Commission must also take under consideration whether the additional PM precursor ammonia will prevent or interfere with the attainment or maintenance of the State's PM10 and PM2.5 Standards. (*Health and Saf. Code § 42301(a)*)

- (b) The Magnitude of Adding an Additional 118.7 Tons Per Year of PM Precursor Ammonia to the Non-attainment Air Basin is Considered Significant in Light of the Serious Nature of Pre-existing Particulate Pollution.

Staff's environmental assessment is consistent with the ruling in Kings County Farm Bureau v. City of Hanford, supra, (221 Cal.App.3d 687, 718), where the court stated that the environmental study must address the "*significance of an activity*" on "*whether any additional amount of precursor emission should be considered significant in light of the serious nature*" of the related air quality problem in the air basin. Staff's environmental assessment has determined that the magnitude of 118.7 tons per year of ammonia slip from LECECF II is cumulatively considerable in light of the existing concentration of particulates in violation of the state standards. Staff's assumption is consistent with state law and is predicated upon facts in the record that are "substantial evidence" for the Commission to make a finding that there is potential for a significant cumulative impact on the existing air quality. (*Staff Brief on the Evidentiary Hearings 7/29/05, pgs. 2, 3, 4, 7, and 8; CEQA Guidelines, Cal. Code Regs., tit. 14, §§ 15355, 15091, 15092, 15382, and 15384*) Furthermore, staff believes that the potential increase in secondary PM from the ammonia slip could violate Health and Safety Code section 42301(a) by preventing or interfering with the attainment of the State's PM10 and/or PM2.5 standards.

- (c) Calpine has neither Provided "Substantial Evidence" to Support its Position that the Ammonia Slip will not have a Significant Cumulative Impact on the Air Basin nor Provided Evidence to Refute Staff's Environmental Assessment Concerning Secondary PM Formation from the Ammonia Slip.

Calpine believes the Commission must make a finding that ammonia slip from LECECF II will cause a significant adverse air quality impact, or will contribute significantly to an existing problem before considering imposing condition **AQ-**

**SC11.** (*Applicant's Opening Brief, 7/29/05, p. 19*) Contrary to Calpine's belief, as discussed below, Calpine has the burden to provide "substantial evidence" to support its conclusion that the 118.7 tons per year of ammonia slip will not contribute significantly to the existing violations of the State's PM10 and PM2.5 standards, but it has not met that burden.

Under California Code of Regulations, title 20, section 1748(d), Calpine has the "burden of presenting substantial evidence to support" its conclusions that the proposed 118.7 tons per year of ammonia slip will not contribute significantly to the existing significant cumulative impact of the District's non-attainment status for PM10 and PM2.5 Standards. (*Emphasis added*) Furthermore, state law requires that the "[s]ubstantial evidence" used to support Calpine's conclusion "include facts, reasonable assumption predicated upon facts, and expert opinion supported by fact." (*CEQA Guidelines, Cal. Code Regs., title 14, § 15384(b)*) Calpine's supporting facts cannot be based upon speculation or unsubstantiated opinion. (*Pub. Res. Code § 21080(e)(2)*)

Calpine concluded that the 118.7 tons per year of ammonia slip will not significantly contribute to the existing violations of the State's PM10 and PM2.5 standards. The basis for its conclusion in the record is the written and oral testimony provided by BAAQMD. (*6/30/05 RT, p. 69:8-11, and p. 108:15-17*) The question that needs to be answered is whether this evidentiary basis meets Calpine's burden to provide "substantial evidence" to support its conclusions under California Code of Regulations, title 20, section 1748(d).

Staff does not believe that Calpine has met its “substantial evidence” burden. As discussed in staff’s Brief, BAAQMD did not perform an air quality analysis for LECEF II to examine the potential formation of secondary PM from the 118.7 tons per year of ammonia slip, but instead relied on a 10-year-old study and limited statistical analysis of trends for NO<sub>x</sub> and nitrates. (*Staff Brief on the Evidentiary Hearings 7/29/05, pgs. 10 and 11*) The limited nature of the subsequent statistical analysis did not confirm a direct “causation” for nitrate PM formation and did not include an investigation on trends for ammonia and fine particulate formation in the ambient air. (6/30/05 RT p. 84:24-25, and p. 85:6-22)

Calpine did not introduce into evidence any site-specific scientific analysis showing that 118.7 tons per year of additional ammonia would have an insignificant impact on ambient PM levels. (6/30/05 RT, p. 108:15-17, and FDOC) There was no site-specific scientific analysis introduced into evidence to counter staff’s assertion that ammonia slip from LECEF II has the potential to react with NO<sub>x</sub> and SO<sub>x</sub> compounds in nearby “hot spots” (e.g., from areas of high traffic levels, the nearby San Jose International airport, or emissions from a stationary source) to form secondary PM. (6/30/05 RT, p. 93:4-11, 108:15-17, and FDOC) Calpine has not provided any scientific evidence that ammonia emitted from LECEF II will somehow behave differently than other ammonia and not react with the ambient NO<sub>x</sub> and SO<sub>x</sub> compounds to form PM<sub>10</sub> and PM<sub>2.5</sub>. (6/30/05 RT, p. 76:3-9)

A 10-year-old study and limited non-conclusive statistical analysis are insufficient evidence to support Calpine’s conclusions and to allow the Commission to make

an “informed decision” that there will be no adverse cumulative impacts on ambient PM10 and PM2.5 levels due to the emission of 118.7 tons per year of ammonia from LECEF II. Because Calpine only provided speculation and unsubstantiated opinion rather than a formal scientific study that the 118.7 tons per year of ammonia slip will not cause a significant impact or contribute to the existing PM violations, staff does not believe the applicant has met its evidentiary burden of proof. (*Pub. Res. Code § 21080(e)(2) and Cal Code Regs., tit 20 § 1748(d)*)

**2. Imposition of Condition AQ-SC11 will Substantially Lessen the Potential Contribution to an Existing Significant Cumulative Impact for LECEF II’s Ammonia Slip to Form Secondary PM.**

Prior to approval of LECEF II, the Commission, as lead agency, has the authority to require feasible changes in order to “*substantially lessen or avoid significant effects on the environment*” from secondary PM emission through mitigation measures if feasible. (*Cal. Code Regs., tit. 20, § 1755(c) and CEQA Guidelines, Cal. Code Regs., tit. 14, §§ 15041, 15091 and 15092*) Staff is not proposing to require a specific amount of offset mitigation for secondary ammonia PM emissions, but is rather recommending condition **AQ-SC11** to substantially lessen the potential for a significant cumulative contribution to the existing violations of the State's PM10 and PM2.5 Standards. (*6/30/05 RT, p. 76:18-25, p. 92:1-7, FSA, 4.1-34; Cal. Code Regs., tit. 20, § 1755(c) and CEQA Guidelines, Cal. Code Regs., tit. 14, §§ 15091 and 15092*)

The basis for **AQ-SC11** is that new catalysts react with available ammonia very efficiently and thus minimize ammonia slip emitted into the atmosphere. Staff testified that it reviewed various source test data that shows that new catalysts and recently retrofitted catalysts emit only 1 ppm ammonia slip. (*6/30/05 RT, p. 79:7-14*) Staff’s test data included data from the existing Los Esteros peaker



facility that shows approximately 1 ppm ammonia slip with the new catalysts.

(*Ibid.*) Staff believes this source-test data confirms that, as the catalyst degrades and becomes spent, ammonia slip increases. This is the basis for the recent Commission approval of the Roseville Energy Center requirement to replace the catalysts within one year of the ammonia slip exceeding 5 ppm.<sup>2</sup> Staff has determined that replacing the spent catalysts with the more efficient new catalysts will substantially lessen the impacts of the ammonia slip precursor than would be emitted if LECFE II were permitted to operate at a maximum of 10 ppm ammonia slip.

Calpine believes the Commission must make a finding that the imposition of condition **AQ-SC11** will substantially reduce ammonia slip from LECFE II and thus reduce the potentially significant impact associated with the formation of secondary PM. (*Applicant's Opening Brief, 7/29/05, p. 19*) As discussed above, staff has analyzed the ammonia slip emissions from various test data which show that new catalysts emit very little ammonia slip. Thus, it is fully supportable that requiring replacement of the spent catalyst that no longer provides for limited ammonia slip will reduce ammonia slip into the ambient air and reduce the potential for secondary PM formation. Calpine has not provided evidence in the record that condition **AQ-SC11** will be ineffective in reducing ammonia slip emissions and the formation of secondary particulates.

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<sup>2</sup> Roseville Energy Center is permitted with the same condition proposed for LECFE II which is 2 ppm NOx, and 5 ppm ammonia slip with catalyst replacement within one year of exceeding the 5 ppm slip. (6/30/05 RT, p. 98:16-20)

### **3. The Commission Has Already Approved Staff's Recommended Mitigation in a Prior Case and Should Approve It again in this Case.**

Calpine believes the Commission must make a finding that the imposition of condition **AQ-SC11** is technically feasible. (*Applicant's Opening Brief*, 7/29/05, p. 19) This finding has been made in the record. The record shows that Roseville Energy Center is permitted with the same conditions as proposed for LECEF II which is 2 ppm NO<sub>x</sub>, and 5 ppm ammonia slip with catalyst replacement within one year of exceeding the 5 ppm slip. (6/30/05 RT, P. 98:16-20; 03-AFC-1; 6/23/05 Staff Supplemental Testimony, p. 1) In addition, the 5 ppm ammonia limit in combination with a 2 ppm NO<sub>x</sub> limit has already been required for the following Commission-licensed facilities: Malburg-Vernon (01-AFC-25), El Segundo (00-AFC-14), Inland Empire (01-AFC-17), Magnolia (01-AFC-6), Morro Bay (00-AFC-12), Palomar (01-AFC-24), and Tesla (01-AFC-21).

### **CONCLUSION**

In conclusion, the Commission has previously found it necessary and prudent to limit the ammonia slip levels to 5 ppm on seven different facilities and required the same ammonia slip condition as the proposed condition **AQ-SC11** on the Roseville Energy Center. Therefore, staff respectfully requests that the Commission carefully consider the issue of ammonia slip for LECEF II in light of the record in *this* case and the *requirements under CEQA* concerning limiting significant cumulative impacts in the non-attainment air basin. The magnitude of the potential cumulative contribution to existing violations of the State's PM<sub>10</sub> and PM<sub>2.5</sub> standards from the 118.7 tons per year ammonia slip, the serious health risks associated with PM, and the fact that neither BAAQMD nor Calpine

has provided the record with a scientific evaluation sufficient to support the applicant's counter-arguments, make the Commission's responsibility clear. It must recognize the significant cumulative effect of the project's ammonia slip and require the feasible mitigation measures proposed by staff. We therefore urge the Committee to adopt Staff's proposed Condition of Certification **AQ-SC11**.

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Respectfully submitted,

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